

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

CROSS WIND RIDGES

(Ac.)

CODE 589A

DEFINITION

Ridges formed by tillage, planting or other operations and aligned across the prevailing wind erosion direction.

PURPOSE

Reduce soil erosion from wind.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to cropland or other land where emergency wind erosion protection is needed and tillage is feasible.

It is best adapted on soils that are stable enough to sustain effective ridges and cloddiness, such as clayey, silty, silt loam, and sandy loam soils.

It is not well adapted on unstable soils such as sands, loamy sands, and certain organic soils.

CRITERIA

Ridge height, spacing, and direction.

Ridge height, spacing, and ridge direction to reduce wind erosion within the soil loss tolerance (T) or other planned soil loss objective shall be determined using the current approved wind erosion technology. Calculations shall account for the effects of other practices in the conservation management system.

Acceptable combinations of ridge height, spacing, and direction are those having ridge roughness K values equal to 0.8 or less during those periods when wind erosion is expected to occur. K values are listed in

tables 10 -13 under the "C, I, K, L Tables tab in the Alaska Wind Erosion Guide, Section I, Erosion Prediction, Field Office Technical Guide. Ridge roughness is discussed in the National Agronomy Manual Subpart 502.32 and K values are displayed in Exhibit 502-4 or 502-5.

CONSIDERATIONS

Cross wind ridges should be used in combination with other conservation practices in a system to control wind erosion.

Transport of wind-borne sediment and sediment-borne contaminants offsite can be reduced by this practice when used in a conservation management system.

Saltation from adjacent fields and roads should be considered when determining ridge height and spacing. Ensure that unsheltered distance includes these areas where saltation begins. Saltation may be effectively controlled with cover crops, mulching with straw or manure, windbreaks, and herbaceous or synthetic wind barriers.

PLANS AND SPECIFICATIONS

Specifications for establishment and maintenance of this practice shall be prepared for each field or treatment unit according to the Criteria, Considerations, and Operation & Maintenance described in this standard.

Specifications shall be recorded using approved specification sheets, job sheets, narrative statements in the conservation plan or other acceptable documentation.

OPERATION AND MAINTENANCE

Ridges shall be established or re-established by equipment such as chisel plows, drills with hoe openers, or other implements that form effective ridges.

After establishment, ridges shall be maintained through those periods when wind erosion is expected to occur, or until growing crops provide enough cover to protect the soil from wind erosion.

If ridges deteriorate and become ineffective due to weathering, erosion, or change in

expected prevailing wind erosion direction, they shall be re-established unless doing so would damage a growing crop.

REFERENCES

Natural Resources Conservation Service.
2002. National Agronomy Manual 190-V.
USDA-NRCS. Washington, D.C.

Alaska Wind Erosion Guide, 1998, Section
1, Alaska Field Office Technical Guide